

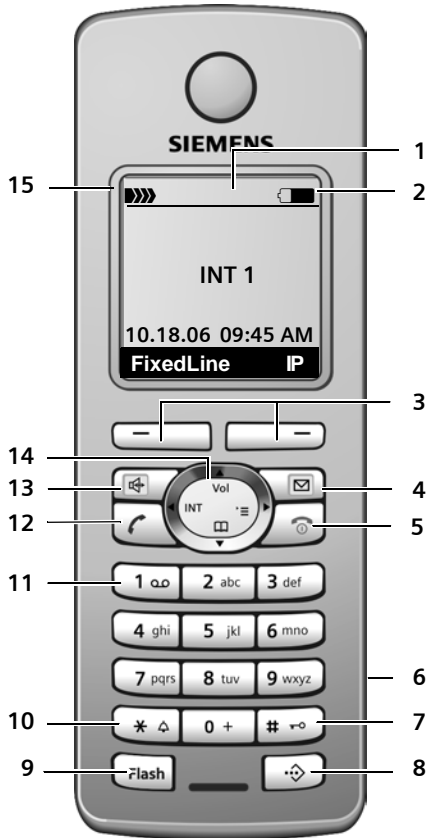
Issued by  
Siemens Home and Office Communication Devices GmbH & Co. KG  
Schlavenhorst 66  
D-46395 Bocholt

© Siemens Home and Office Communication Devices GmbH & Co. KG 2006  
All rights reserved. Subject to availability.  
Rights of modification reserved.

[www.siemens.com/gigaset](http://www.siemens.com/gigaset)



## The handset at a glance



### Handset keys

- 1 **Display** in idle status (example)
- 2 **Battery charge status**
  - █ (1/3 charged to fully charged)
  - ◻ flashes: battery nearly empty
  - ◻ █ flashes: battery charging
- 3 **Display keys** (page 18)
- 4 **Message key**
  - Opens calls and message lists
  - Flashes: new message
- 5 **End call key, On/Off key**
  - End call, cancel function, go back one menu level (press briefly), back to idle status (press and hold), activate/deactivate handset (press and hold in idle status)
- 6 **Connection socket for headset**
- 7 **Pound key (#)**
  - Keypad lock on/off (press and hold, page 17)
  - Switch between upper/lower case letters and numbers for text entry
- 8 **Last number redial key**
  - Open the last number redial list (press briefly)
- 9 **Flash key** (not for VoIP)
  - Enter flash (press briefly)
  - Insert a pause (press and hold)
- 10 **Star key**
  - Ringer tones on/off (press and hold in idle status)
  - Open special characters table for text entry
- 11 **Key 1** (press and hold)
  - Call the network mailbox
- 12 **Talk key**
  - Accept a call, select connection type and start dialing (press briefly/press and hold after entering the number, page 16)
- 13 **Handsfree key**
  - Switch between earpiece/handsfree mode
  - Lights up: handsfree talking activated
  - Flashes: incoming call
- 14 **Control key** (page 18)
- 15 **Signal strength**
  - ▬▬▬▬▬▬ (low to high)
  - ▬▬▬▬▬▬ flashes: no reception

## Base station at a glance



### Base station key

- 1 **Paging key**
  - Lights up: LAN connection active (phone is connected to router)
  - Flashes: data transfer to LAN connection
  - Press **briefly**: start paging
  - Press and **hold**: set base station to registration mode

# Contents

<b>The handset at a glance</b>	<b>1</b>
<b>Base station at a glance</b>	<b>1</b>
<b>Safety precautions</b>	<b>3</b>
<b>Gigaset S450 IP – More than just a telephone</b>	<b>4</b>
<b>VoIP – Making calls via the Internet</b>	<b>5</b>
<b>First steps</b>	<b>5</b>
Pack contents	5
Setting up the handset for use	6
Installing the base station	8
Connecting the base station	9
Making settings for VoIP telephony	11
<b>Menu tree</b>	<b>14</b>
<b>Making calls with VoIP and the fixed network</b>	<b>16</b>
Making an external call	16
Ending a call	16
Accepting a call	16
Waiting calls	17
Switching between earpiece and handsfree mode	17
Dialing emergency numbers	17
<b>Operating the handset</b>	<b>17</b>
Activating/deactivating the handset	17
Activating/deactivating the keypad lock	17
Control key	18
Display keys	18
Reverting to idle status	18
<b>Using the directory and lists</b>	<b>19</b>
Directory	19
Last number redial list	19
Opening lists with the message key	20
Dialing from the directory/list	20
<b>E-mail notifications</b>	<b>21</b>
Entering access data for the incoming e-mail server	21
Opening the incoming message list	21

<b>Messenger</b>	<b>22</b>
Establishing a connection, going online	22
Opening the buddy list and chatting	22
Receiving messages	23
Writing/sending messages	23
Calling a buddy	23
Disconnecting, going offline	23
<b>Handset/base station settings</b>	<b>24</b>
Changing the handset display keys	24
Adjusting the loudspeaker volume	24
Setting ringer tones	24
Activating/deactivating advisory tones	25
Setting the alarm clock	25
Changing the system PIN on the base station	25
Setting default connection	25
Checking the base station MAC address	26
<b>Web configurator</b>	<b>26</b>
Connecting the PC to the Web configurator	26
Deregistering	26
Web configurator functions	26
<b>Appendix</b>	<b>28</b>
Care	28
Contact with liquid	28
Questions and answers	28
Specifications	28
FCC / ACTA Information	29
Industry Canada Certification	31
Safety precautions	31
END-USER LIMITED WARRANTY	33
Gigaset S450 IP – free software	36

## Safety precautions\*

### Warning:

Read the safety precautions and the operating instructions before use.

Explain their contents and the potential hazards associated with using the telephone to your children.



**Only use the power supply unit supplied**, as indicated on the underside of the device.



Only insert **approved rechargeable batteries of the same type**.

Never use ordinary (non-rechargeable) batteries as they may pose a health hazard or cause injury.



Make sure the rechargeable battery is inserted the right way round.



Use the battery specified in these operating instructions.



The phone may affect medical equipment so always switch your phone off before entering hospitals or doctors' practices.



The handset may cause an unpleasant humming noise in hearing aids.



Do not operate the phone in places where there is a risk of explosion (such as paint workshops).



Do not install the base station in bathrooms or shower rooms. The handset and base station are not splash-proof (see page 28).



Drivers must not use the phone while driving.



The phone must be switched off at all times in an aircraft. Make sure it cannot be switched on accidentally.



If you give your Gigaset to someone else you should also give them the operating instructions.



Dispose of batteries and the phone carefully. Do not pollute the environment.

**Emergency numbers cannot be dialed if the keypad lock is activated!**

\* see also page 31

## Gigaset S450 IP – More than just a telephone

---

Your phone lets you make calls both via the fixed network and (cost effectively) via the Internet (VoIP) **without using a PC**.

And your phone can do much more besides:

- ◆ **Press a button** each time you make a call to indicate whether you want to make a call via the fixed network or via the Internet (page 16). During a call, the display color indicates whether your call is being made via VoIP (blue) or via the fixed network (orange).
- ◆ Register up to **six** handsets on your base station. Your base station allows you to use one handset to make a call via the fixed network and another to make a call via the Internet at the same time.
- ◆ Configure the phone connection for VoIP **without a PC**. Your phone's connection assistant downloads general data about your VoIP provider from the Internet and guides you through entering your personal data (VoIP/SIP account). This makes it easy for you to start using VoIP (page 11).
- ◆ If necessary, make any further VoIP settings on a PC. The phone has a Web interface (**Web configurator**) that can be accessed via your PC's Web browser (page 26).
- ◆ Assign your own password (**system PIN**) to protect your device and the Web configurator from unauthorized access (page 25).
- ◆ Use **instant messaging** on your handset. Go online and see which of your messenger contacts (buddies) are also online. Chat with your buddies, send and receive text messages, or phone them (page 22).

- ◆ Use your phone to obtain information about new **e-mail** messages in your mailbox **without a PC** (page 21).
- ◆ Save up to 150 numbers and names in your handset (page 19).
- ◆ Download your Outlook contacts from a PC into your handset. Or back up the handset directory on your PC.
- ◆ You can program the keys of your phone with important phone numbers. The phone number is then dialed by simply pressing the respective key (page 19).
- ◆ Keep your hands free while making calls. Use the handsfree function on your handset or use a convenient headset (accessory, not included).
- ◆ Keep your phone completely up to date. Find out about **firmware updates** on the Internet and download them into your phone.
- ◆ Use your handset as an alarm clock (page 25).

For a full description of all functions on your Gigaset S450 IP, please see the complete user guide on the Internet at: [www.siemens.com/gigaset](http://www.siemens.com/gigaset)

Your Gigaset S450 IP has a protected operating system that offers **increased security against viruses** from the Internet.

**Have fun using your new telephone!**

## VoIP – Making calls via the Internet

---

With VoIP (**V**oice **o**ver **I**nternet **P**rotocol), your calls are not made via a fixed connection as in the telephone network, but rather transmitted via the Internet in the form of data packets.

You can take advantage of all the benefits of VoIP with your phone:

- ◆ You can make cost-effective calls with high voice quality with subscribers on the Internet, the fixed network or the mobile phone network.
- ◆ Your SIP provider will give you personal numbers with which you can be reached from the Internet, the fixed network and any mobile phone network.

To be able to use VoIP, you need the following:

- ◆ A broadband Internet connection (such as DSL) with flat rate (recommended) or volume-based price
- ◆ Internet access, meaning that you need a router that will connect your phone to the Internet. You can find a list of recommended routers on the Internet at: <http://www.siemens.com/qigaset>
- ◆ Access to the services of a VoIP provider. Open up to four accounts with **one** VoIP provider.

## First steps

---

### Pack contents

---

The pack contains:

- ◆ one Gigaset S450 IP base station
- ◆ one Gigaset S45 handset
- ◆ one power adapter for the base station
- ◆ one charging cradle incl. power adapter
- ◆ one phone cord
- ◆ one Ethernet cable (LAN cable)
- ◆ two batteries
- ◆ one battery cover
- ◆ one belt clip
- ◆ one quick guide

### Documentation

You will find a detailed description of your Gigaset S450 IP and its Web configurator online at:

[www.siemens.com/qigaset](http://www.siemens.com/qigaset)

This complete description is in PDF format. You will need Adobe® Reader® to view these documents. You can find Adobe® Reader® on the Internet at [www.adobe.com](http://www.adobe.com).

## Setting up the handset for use



The display is protected by a protective plastic film.  
**Please remove the protective film!**

### Inserting the batteries

#### Warning:

Use only the rechargeable batteries recommended by Siemens on page 28! This means that you must not use conventional (non-rechargeable) batteries or other types of batteries. If you do, serious damage to health and property cannot be ruled out: for example, the outer casing of the batteries could be destroyed or the batteries could explode. The phone could also malfunction or be damaged as a result of using batteries that are not of the recommended type.

- ▶ Insert the batteries the right way round (see figure).

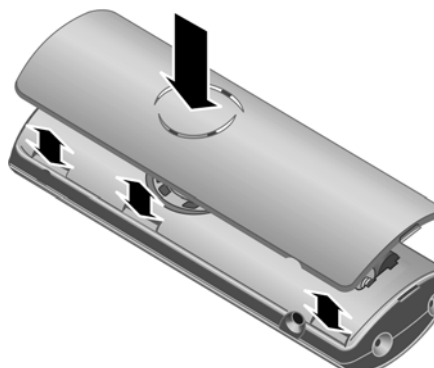
The polarity is indicated in/on the battery compartment.



The handset turns on automatically.  
You will hear a confirmation tone.

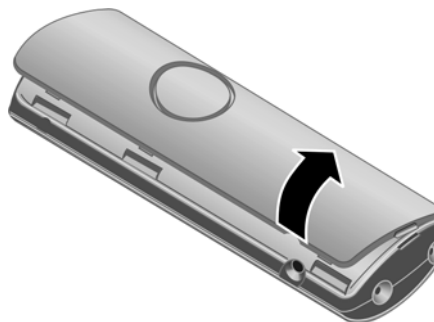
### Closing the battery cover

- ▶ First, align the notches on the side of the battery cover with the protrusions on the inside of the housing.
- ▶ Then press the cover until it clicks into place.



### Opening the battery cover

- ▶ If fitted, remove the belt clip.
- ▶ Place your finger in the headset socket cavity and pull the battery cover upwards.



### Connecting the charging cradle




Connecting up the charging cradle and mounting it on the wall (if required) is described at the end of this user guide.

- ▶ To charge the batteries, leave the handset in the charging cradle.

#### Notes:

- Only place the handset in the charging cradle that is intended for it.
- If the handset has turned itself off because the batteries are flat and it is then placed in the charging cradle, it will turn itself on automatically.

## Initial charging and discharging of batteries

Battery charging is indicated in the top right of the display by a flashing battery icon ,  or . During handset operation, the battery icon indicates the charge status of the batteries (page 1).

The correct charge status can only be displayed when the batteries are first fully charged **and** discharged through use.

- ▶ To do this, leave the handset in the charging cradle without interruption until the battery icon stops flashing in the display (approx. 13 hours).
- ▶ Once the batteries are fully charged, remove the handset from the charging cradle and do not put it back again until the batteries are fully discharged.

### Note:

After the first battery charge **and** discharge, you may replace your handset in the charging cradle after every call.



### Please note:

- ◆ Always repeat the charging and discharging procedure if you remove the batteries from the handset and reinsert them.
- ◆ The batteries may warm up as they are charging. This is not dangerous.
- ◆ After a while the charge capacity of the batteries will decrease for technical reasons.

### Note:

You will find explanations of the icons and typographical conventions used in this user guide in the detailed user guide for your Gigaset S450 IP available online at [www.siemens.com/gigaset](http://www.siemens.com/gigaset).

## Setting the date and time





If the date and time are not yet set on the phone, the display key **Time** is displayed. You can set the date and time later via the menu  →  **Settings** → **Date/Time**.

- ▶ Press **Time** or open the menu.
- ▶ Change multiple line input:

### Date:

Enter month, day and year in 6-digit format.

### Time:

Enter hours and minutes as 4 digits (e.g.     for 07:15 am

If you have selected the **12-hour** time format, use the display key **am/pm** to switch between am and pm.

### Time Mode:

Choose between 12 and 24-hour time format.

### Save

Press the display key.

The date and time are shown in the handset's idle display (page 1).

## Area codes

In order to call back a caller using the calls list (page 20), your phone's **area code** ("local area code") must be stored. If your phone is in a "multiple area code" area, the **extra codes** for this area must also be stored.

### Area Code

 →  **Settings** → **Telephony**  
→ **Area Code**



Enter local area code.

### Save

Press the display key.



Press and **hold** (idle status).

### Extra Codes

 →  **Settings** → **Telephony**  
→ **Extra Codes**



Select an entry and press **Edit**.



Enter extra code.

### Save

Press the display key.



## First steps

Repeat the above steps until all extra codes for your area have been entered. A maximum of 5 extra codes can be stored.



Press and **hold** (idle status).

## Registering the handset to the base station

Your handset is registered to the base station by default.

Instructions on how to register further handsets to the base station and make free internal phone calls is described in the detailed user guide available online at [www.siemens.com/gigaset](http://www.siemens.com/gigaset).

## Installing the base station

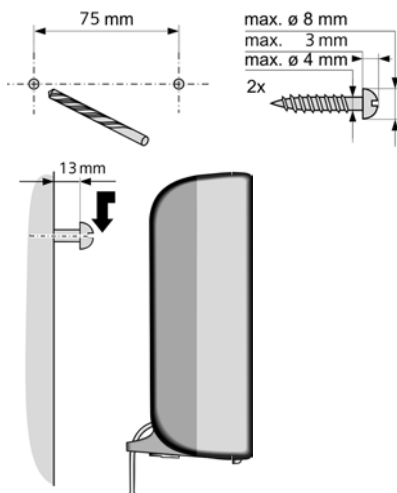
The base station is designed for use in closed, dry rooms with a temperature range of +41°F to +113°F.

- Set up or wall mount the base station at a central point in the apartment or house.

### Please note:

- ◆ Never expose the phone to heat sources, direct sunlight or other electrical appliances.
- ◆ Protect your Gigaset from moisture, dust, corrosive liquids and vapors.

## Wall mounting the base station



## Connecting the base station

In order to be able to make calls with your phone via the fixed network and via VoIP, you must connect the base station to the fixed network and the Internet, see Figure 1.

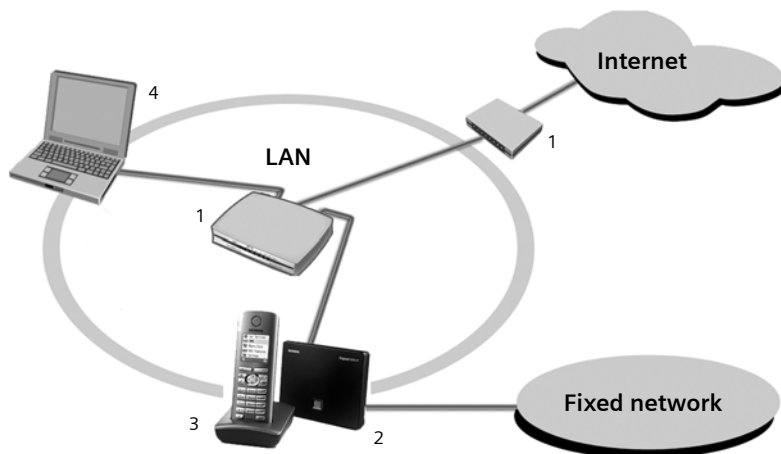


Figure 1 Connecting the phone to the fixed network and the Internet

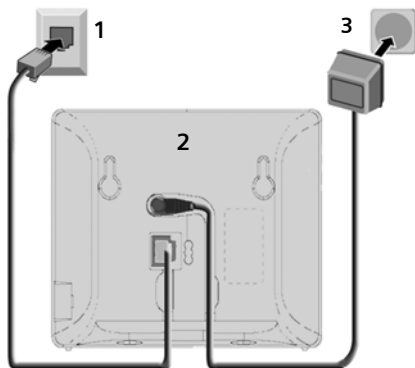
- 1 Internet connection:  
router and modem (illustrated) or  
router with integrated modem
- 2 Gigaset S450 IP base station
- 3 Gigaset S45 handset
- 4 PC in LAN

Follow the steps in the order given below:

1. Connect the base station with the phone connection
2. Connect the base station with the electrical power supply
3. Connect the base station with the router

## Connecting the base station with the fixed network and the electrical power supply

- **Please first** connect the phone jack and **then** the power adapter, as shown below.

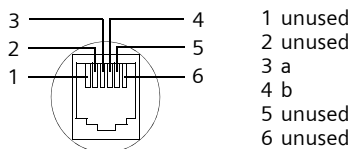


- 1 Phone jack with phone cord
- 2 Underside of the base station
- 3 Power adapter 110 V

### Please note:

- ◆ Keep the power adapter **plugged in at all times** for operation, as the phone does not work without a supply of electricity.
- ◆ If you buy a replacement phone cord from a retailer, ensure that the phone jack is connected correctly.

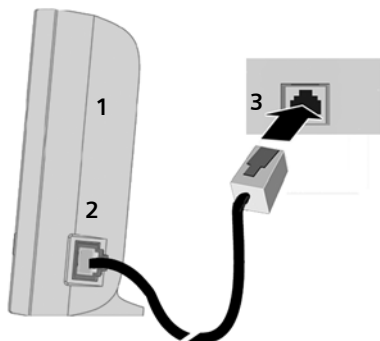
### Correct phone jack assignment



You can now use your phone to make calls via the fixed network and can be reached at your fixed network number!

## Connecting the base station with the router

For Internet access you need a router connected to the Internet via a modem (if necessary, this can be integrated in the router).



- 1 Side view of the base station
- 2 Network plug (LAN) with network cable
- 3 Router network plug

As soon as the cable connecting the phone and router is plugged in, the paging key lights up on the front of the base station (page 1).

## Making settings for VoIP telephony

Before you can use the Internet (VoIP) to phone any other users on the Internet, the fixed network or the mobile phone network, you need the services of a VoIP provider who supports the VoIP SIP standard.

**Precondition:** You have registered (for example via your PC) with such a VoIP provider and set up at least one VoIP account.

The following phone settings are necessary in order for you to use VoIP. You will receive all information from your VoIP provider.

- ◆ Your user name with the VoIP provider, if this is required by the VoIP provider
- ◆ Your registration name
- ◆ Your password with the VoIP provider
- ◆ VoIP provider general settings

The connection assistant will help you with the settings.



### Starting the connection assistant

**Precondition:** The base station is connected to the electrical power supply and the router. Your router is connected to the Internet (page 10).

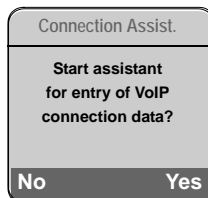
**Tip:** If VoIP is activated as the default connection for your phone (default setting page 25), the phone will attempt to make a direct connection to your VoIP provider's server after the connection assistant is closed. If incorrect/incomplete information means that the connection cannot be made, messages will be displayed (page 13).

#### Note:

Your phone is preconfigured for dynamic assignment of the IP address. In order for your router to "recognize" the phone, dynamic IP address assignment must also be activated on the router, meaning that the router's DHCP server is activated.

As soon as the handset battery is sufficiently charged, the message key  on the handset will flash (around 20 minutes after you have put the handset in the charging cradle). Press the message key  to start the connection assistant.

You will see the following display:



**Yes**

Press the display key to start the connection assistant. The settings are configured in several steps.



Enter system PIN (the default setting is "0000").

#### Note:

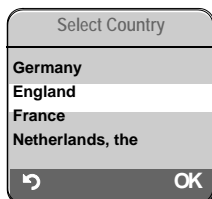
The connection assistant will also start automatically if you try to establish a connection via the Internet, before you have configured the necessary settings.

You can also call up the connection assistant at any time via the menu (page 14).

### Downloading VoIP provider data

The phone establishes a connection with the Siemens server on the Internet. Profiles with general access data for various VoIP providers can be downloaded here.

After a short time the following is displayed:



Select country (press up/down on the control key) and press **OK**. The VoIP providers are shown for which VoIP profiles are available.



Select your VoIP provider and press **OK**.

The necessary general access data for your VoIP provider is downloaded and saved on the phone.

If the data for your VoIP provider is not offered as a download, press the display key **OK**. You can then carry out the following steps as instructed by the connection assistant. You must then configure the necessary settings for the VoIP provider using the Web configurator (page 27). Your VoIP provider will supply you with this information.

### Entering user data for your VoIP account

Enter the VoIP user data for your VoIP account. Your VoIP provider will supply you with this information.

Username:

If required by your provider, enter the user name and press **OK**.

Authent. Name:

Enter the registration name and press **OK**.

Authent. Password:

Enter password and press **OK**.

#### Note:

Please note when making these entries that the VoIP user data is case sensitive. When entering text, the first letter is capitalized as standard. Press and hold the **OK** key to switch between upper/lower case text and numerical entry.

### Completing the VoIP settings

Once you have made all of the necessary entries, the message "Connection data complete" is displayed. The handset returns to idle status.

If all of the settings are correct and if the phone can make a connection to the VoIP server, then the internal name of the handset will be displayed (example):



You can now use your phone to make calls via the fixed network (fixed line) and the Internet! Callers can reach you on your fixed network number and your VoIP number!

#### Note:



To ensure that you can always be reached via the Internet, the router must be permanently connected to the Internet.

## No connection to the Internet/VoIP server



If one of the following messages is displayed instead of the internal name after the connection assistant is closed, then a fault has occurred:

### Server not accessible!

The phone has no connection to the Internet.

- ▶ Check the cable connection between the base station and the router (the LED on the base station must light up) and the connection between the router and the Internet connection.
- ▶ Check whether the phone is connected to the LAN. It might not have been possible to assign an IP address to the phone or the IP address has already been assigned to another LAN subscriber and cannot be changed.
  - ▶ Find the IP address using the handset menu:
    -  →  Settings → Base → Local Network
  - ▶ Start the Web configurator with the IP address.
  - ▶ If no connection can be established, change the settings on the router (activate DHCP server) or the phone's IP address.


### Provider registration failed!

- ◆ Your personal data for registering with the VoIP provider may have been entered incompletely or incorrectly.
  - ▶ Check your entries for Username, Authent. Name and Authent. Password. In particular, check your use of upper and lower case. To do this, open the following menu on your handset:
    -  →  Settings → Telephony → VoIP → Provider Registr.

- ◆ The server address for the VoIP server has not yet been entered, or has been entered incorrectly.
  - ▶ Start the Web configurator.
  - ▶ Open Settings → Telephony → Connections Web page.
  - ▶ Edit the server address if necessary.

### Note:

If port forwarding is activated on your router for the ports that have been registered as the SIP port (Standard 5600) and the RTP port (Standard 5004), then it makes sense to switch off DHCP and assign the phone a static IP address (otherwise you may not be able to hear the other party during VoIP calls):


- Via the handset menu:
  -  →  Settings → Base → Local Network

Or

- Via the Web configurator:
  - ▶ Open Settings → IP configuration Web page.
  - ▶ Select IP address type.

Please note that the IP address and subnet mask depend on the router's address block. You must also specify the default gateway and DNS server. The IP address for the router is generally entered here.

# Menu tree

To open the main menu for your phone, with the handset in idle status, press on the right of the control key: .


There are two ways to select a function:

## Using number combinations ("shortcuts")

► Enter the number combination that is in front of the function in the menu tree.

**Example:**     for "Set handset language".

## Scrolling through the menus

► Scroll to the function with the control key  (press up and down) and press **OK**.

### 1 Messaging

1-2	E-mail	1-2-1	Inbox (0)		
		1-2-2	Settings	1-2-2-1	Registration
				1-2-2-2	Incoming (POP3)
1-3	Messenger	1-3-1	Buddies		
		1-3-2	User Status	1-3-2-1	Change Status
				1-3-2-2	Info
		1-3-3	Messages		

### 2 Sel. Services

2-1	VoIP	2-1-6	Call Divert
		2-1-7	Call Waiting

### 3 Alarm Clock

### 4 Add. Features

4-3	Room Monitor
-----	--------------

### 5 Settings

5-1	Date/Time				
5-2	Audio Settings	5-2-1	Ringer Settings	5-2-1-1	Ext. Calls
				5-2-1-2	Internal Calls
				5-2-1-3	All
		5-2-2	Advisory Tones		

5-3	Display	5-3-1	Screen Saver		
		5-3-2	Color Scheme		
		5-3-3	Contrast		
		5-3-4	Backlight		
5-4	Handset	5-4-1	Language		
		5-4-2	Auto Answer		
		5-4-3	Register H/Set		
		5-4-4	Select Base		
		5-4-5	Reset Handset		
5-5	Base	5-5-1	Calls List Type	5-5-1-1	Missed Calls
				5-5-1-2	All Calls
		5-5-2	Music on hold		
		5-5-3	System PIN		
		5-5-4	Base Reset		
		5-5-5	Add. Features	5-5-5-2	Listening In
				5-5-5-3	Listening In Tone
		5-5-6	Local Network		
		5-5-8	Software Update		
5-6	Voice Mail	5-6-1	Set Key 1	5-6-1-1	Network Mailb.
5-7	Telephony	5-7-1	Default Line	5-7-1-1	VoIP
				5-7-1-2	Fixed Line
		5-7-2	Connection Assist.		
		5-7-4	Area Code		
		5-7-5	Extra Codes		
		5-7-6	Fixed Line	5-7-6-1	Dialing Mode
				5-7-6-2	Flash
		5-7-7	VoIP	5-7-7-1	Show Stat. on HS
				5-7-7-2	Select Provider
				5-7-7-3	Provider Registr.

Not all menu items are described in this quick guide. You will find the full description in the detailed user guide for your Gigaset S450 IP on the Internet at [www.siemens.com/gigaset](http://www.siemens.com/gigaset).



## Making calls with VoIP and the fixed network

---

### Making an external call

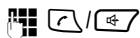
---

External calls are those that are made via the public telephone network (fixed network) or the Internet (VoIP). You determine what type of connection you want to use when you dial.

#### Notes:

- You can make two parallel external calls on your base station (on two handsets): one call via VoIP and one via the fixed network.
- During an external call, the color of the display indicates whether you are connected with the other participant via VoIP (blue) or via the fixed network (orange).
- If you use VoIP to make a call to the fixed network, you may also have to dial the area code for local calls (depending on the VoIP provider).  
To avoid always having to enter the area code for local calls, you can also enter the area code in the configuration (with the Web configurator, see page 26). It will then be inserted automatically for local calls.

#### Selecting the type of connection via the talk key and making a call



Enter number/IP address and **briefly press/press and hold** the talk key or handsfree key.

A default connection is established on your phone (fixed network or VoIP, page 26).

- ▶ Press the talk key or handsfree key **briefly** if you want to make the call via the default connection.
- ▶ Press and **hold** the talk key or handsfree key if you want to make the call via the other type of connection.

#### Note:

If you use a GAP-compatible handset other than Gigaset S45, all calls will be made via the standard connection, even if you press and hold the talk key . If you want to use the non-default connection to make a call, enter a star (\*) at the end of the number.

#### Selecting the type of connection via display keys and making a call

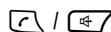
**Precondition:** **FixedLine** and/or **IP** are assigned to the display keys on your handset (Gigaset S45 default setting).

#### **FixedLine** / **IP**

Press the display key to select the type of connection.



Enter number or select number from the directory.



Press the talk or handsfree key.

#### Entering an IP address

Via VoIP you can dial an IP address instead of a phone number.

- ▶ Press the star key to separate the parts of the IP address (for example 149\*246\*122\*28).
- ▶ If necessary, press the hash key to attach the SIP port number of the person you are calling to the IP address (for example 149\*246\*122\*28#5060).

#### Canceling the dialing operation

You can cancel the dialing operation with the end call key .

### Ending a call

---





Press the end call key.

### Accepting a call

---

The handset indicates an incoming call by ringing and by the flashing of the handsfree key . The display shows the caller's number or name and the receive number the caller is calling (such as for Fixed Line, for IP1 etc.).

You can accept the call by:

- ▶ Pressing the talk key .
- ▶ Pressing the display key **Accept**.
- ▶ Pressing the handsfree key .

If the handset is in the charging cradle and the **Auto Answer** function is activated (page 15), the handset will take a call automatically when you lift it out of the cradle.

## Waiting calls

If CLIP is activated and a waiting call is displayed, 4 different CID 2.5 services can be selected.

During a call:

**Options** Press the display key

Select with .

Take msg

The waiting call is forwarded to the central office mailbox.

Hold msg

The waiting call is put on hold and the caller hears a message to this effect from the central office.


Call back

The waiting caller is prompted by the central office to call again at a later time.


Add 2nd


The central office is prompted to initiate a conference call.

## Switching between earpiece and handsfree mode

- ▶ Press handsfree key  to activate/deactivate handsfree mode during a call.

If you wish to place the handset in the charging cradle during a call in handsfree mode:

- ▶ Press and hold the handsfree key  while placing the handset in the charg-

ing cradle. If the handsfree key  does not light up, press the key again.

## Dialing emergency numbers

The default setting for your phone is that all numbers that are saved as emergency numbers are automatically dialed via the fixed network.

You can deactivate this function via the Web configurator (see dialing plans, page 27) (for example if you use the phone without a fixed network). Ask beforehand, however, whether your VoIP provider supports emergency numbers.

Emergency numbers have been preset in your phone. You can use the Web configurator to display these numbers, enter additional emergency numbers or change emergency numbers.

**Please note:** If you have used Web configurator to deactivate the function **Emergency calls** always via fixed line and then entered an automatic local area code for VoIP calls (Web page **Settings** → **Telephony** → **Dialing Plans**, page 27), then the local area code will also be inserted before emergency numbers if they are dialed using VoIP.

## Operating the handset

### Activating/deactivating the handset




Press and **hold** the end call key.

You will hear the confirmation tone.

### Activating/deactivating the keypad lock




Press and **hold** the hash key.

You will hear the confirmation tone. The  icon appears in the display when the keypad lock is activated.





## Control key







In this user guide, the side of the control key that you must press in the given operating situation is shown in black. Example:  for "press up on the control key".

The control key has the following functions:





### When the handset is in idle status

-  Open directory.
-  Open main menu.
-  Open list of handsets.
-  Adjust the ringer tone volume of the handset (page 24).




### In lists and menus

-  /  Scroll up/down line by line.
-  Open submenu or confirm selection.
-  Go back one menu level or cancel.

### In an input field

You can use the control key to move the cursor **up** , **down** , **right**  or **left** .

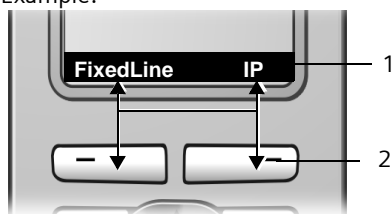
### During an external call

-  Open the directory.
-  Initiate an internal consultation call.
-  Adjust the loudspeaker volume for operation in earpiece/handsfree mode.

## Display keys

The current display functions are shown in the bottom display line in reversed high-lights. The function of the display keys changes depending on the particular operating situation.

Example:




1 Current display key functions are shown in the bottom display line.

2 Display keys

## Reverting to idle status

Reverting to idle status from anywhere in the menu:

- Press and **hold** the end call key .

Or:

- Do not press any key: after 2 minutes the display will **automatically** revert to idle status.

Changes that you have not confirmed or saved by pressing **OK**, **Yes**, **Save**, **Send** or **Save OK** will be lost.

**You will find more information about operating your Gigaset S45 in the detailed user guide available online at [www.siemens.com/gigaset](http://www.siemens.com/gigaset).**


## Using the directory and lists

The options are:

- ◆ Directory
- ◆ Last number redial list
- ◆ E-mail and messenger lists
- ◆ Calls list

### Directory

You can save up to 150 numbers and names in the **directory**.

- Open the directory by **briefly** pressing the  key in idle status.

#### Length of an entry

Number: max. 32 digits

Name: max. 16 characters

#### Notes:

Always enter the phone number with an area code. You will need this if you want to call a fixed network subscriber via VoIP.

Alternatively, via the Web configurator you can also specify an area code to be placed before all numbers dialed without an area code.

### Saving a number in the directory

 → New Entry

- Change multiple line input:

Number:

Enter number.




Name:

Enter name.

Annivers.:

Press the display key **Edit** and enter the date, reminder time and type of signal.


#### Speed Dial:

Select the digit keys for speed dial (,  to ).



The number is dialed via the non-default connection if you press and **hold** the assigned digit key in idle status.

- Save changes with **Save**.

#### Note:

If you add a star (\*) to the end of the number, the number will be dialed via the non-default connection (page 25), even if you briefly press the talk key .

### Managing directory entries

 →  (Select entry)

- Press the display key **View** to view the entry

Or

- Press the display key **Options** to open the directory menu.

You can use the directory menu to, for example:

- ◆ Change entries, delete entries, mark entries as a **VIP** (Very Important Person) or send them to other handsets connected to the base station
- ◆ Delete the directory or send it to another handset

You will find additional information in the detailed user guide for your Gigaset S450 IP on the Internet at [www.siemens.com/gigaset](http://www.siemens.com/gigaset).


### Last number redial list



The last number redial list contains the ten numbers last dialed with the handset.







**Briefly** press the key to open the last number redial list.

## Opening lists with the message key


You can open the following lists with the message key :

- ◆ Incoming e-mail list  
The list is only displayed if there are new messages in the mailbox on the incoming e-mail server.
- ◆ Messenger message list  
The list is only displayed on the online handset.
- ◆ Network mailbox  
If your network provider supports this function and the network mailbox is set up for fast access via key 1 (page 15).
- ◆ Calls list  
You can configure your calls list to include all calls or just missed calls.  
 →  Settings → Base  
→ Calls List Type


An advisory tone sounds as soon as a **new entry** arrives in a list. The  key flashes (it will go off when the key is pressed). In idle status, the display shows an icon for the new entry.


Icon	New entry...
	... in network mailbox
	... in calls list
	... in messenger or e-mail list

The number of new entries is shown beneath the corresponding icon.

If you press the  key, the lists containing messages will be displayed (exception: network mailbox). Lists with new messages are displayed in bold.



### Opening a list

 → If necessary, select the list

 Select entry.

You will find additional information about the lists in the detailed user guide for your Gigaset S450 IP on the Internet at [www.siemens.com/gigaset](http://www.siemens.com/gigaset).

## Dialing from the directory/list

- ▶ Open the directory/list.
- ▶ Select entry via .
- ▶ Press and **hold/briefly** press the talk key  (page 16).

### Note:



You can only dial IP addresses via VoIP.

## E-mail notifications

---

Your phone will inform you when new e-mail messages have arrived on your incoming e-mail server.

Periodically (approx. every 15 min.) it establishes a connection to the e-mail server and checks whether new messages are present.

New e-mail messages are indicated on all registered Gigaset S45 handsets by an advisory tone and by a flashing message key . The  icon is shown in the idle display.

### Preconditions:

- ◆ You have established an e-mail account with an Internet service provider.
- ◆ The incoming e-mail server uses the POP3 protocol.
- ◆ You have stored the name of the incoming e-mail server and your personal access data (account name, password) in the phone.

## Entering access data for the incoming e-mail server

---

### Entering access data

 →  Messaging → E-mail → Settings  
→ Registration

- ▶ Change multiple line input:

Username:



Enter user name (account name)  
(max. 32 characters).

Authent. Password:

Enter password (this is case sensitive).

- ▶ Press the display key **Save**.

### Entering the incoming e-mail server


 →  Messaging → E-mail → Settings  
→ Incoming (POP3)

- ▶ Enter the name of the incoming e-mail server (POP3 server).
- ▶ Select **Options** → Save and press **OK**.

## Opening the incoming message list

---

 →  Messaging → E-mail → Inbox

Or, if there are new e-mail messages (the message key  flashes):

 → E-mail:

The phone establishes a connection to the incoming e-mail server. The list of e-mail messages stored there is displayed.

The sender's name and e-mail address (single line, abbreviated if necessary) are displayed as well as the date and time.

### Viewing the header of an e-mail



Select e-mail entry.

**Subject**

Press display key.

The subject of the e-mail message (max. 120 characters) is displayed.



Now press the display key to return to the incoming message list.

### Viewing the sender's address for an e-mail



Select e-mail entry.

**From**

Press the display key.

The sender's e-mail address is displayed in full.




Now press the display key to return to the incoming message list.

## Messenger

The messenger on your phone makes **instant messaging** possible (immediate message transfer, chatting). The phone supports XMPP messenger (Jabber).

When you go **online** (page 22), you have the following options:

- ◆ Display your list of contacts (**buddies**) on your handset. Each buddy's status is shown, for example **online** and ready to chat (**state of presence**, see page 22).
- ◆ Exchange messages with your buddies. The message key  on your handset will flash and a beep will sound to alert you to new messages.
- ◆ Call your buddies directly from the buddy list (page 23).

### Preconditions for instant messaging:

- ◆ You have registered with an instant messaging provider via the Web browser on your PC and have created a buddy list.
- ◆ You have saved the messenger server address and your messenger server access data (user ID, password) via the Web configurator on your phone (page 27).

#### Note:

If your instant messaging provider does not support the messenger client on your phone, open an account with a Jabber server and enter its address using the Web configurator in your phone. Many of these Jabber servers offer gateways to other messenger servers (including AOL, ICQ, MSN, Yahoo!).

You will find a list of Jabber servers and an overview of the gateways to other messenger servers on the Internet at:

<http://www.jabber.org>.

## Establishing a connection, going online

 →  Messaging → Messenger

**Yes** Confirm prompt.



If you are online, the messenger submenu is displayed on the screen. You can open your buddy list, send and receive messages and call buddies.

### Notes


- Only one of the handsets connected to the base station can go online.
- An external call for your handset interrupts the chat, but you remain online. Once the call is ended or rejected, you can resume your chat.

## Opening the buddy list and chatting

**Precondition:** You are Online.

 →  Messaging → Buddies

 Select a buddy.

In the buddy list, the buddies are sorted according to their status (see below). Status is displayed by the color of the  icon:

1. Online / Ready for chat (**green**)
2. Away / Extended Away / Do not disturb (**orange**)
3. Offline / Invisible (**red**)

If the buddy's status changes, the buddy list is updated. If a buddy changes to Online / Ready for chat status, a message is displayed.

### Checking information about buddies

**Info** Press the display key.



### Chatting to buddies

**Chat** Press the display key.

- ▶ Write and send your message (page 23).

## Receiving messages

**Precondition:** You are **Online**.

New messages are signaled by the message key  flashing, a beep sounding and the  icon being displayed in the idle display.

The messages are stored in the **Messenger**: message list.


### Opening the message list

 → **Messenger**: (2)

Or:

 → **Messaging** → **Messenger**  
→ **Messages**

### Reading the message

- ▶ Press  to select the message.
- ▶ Press the display key **Read**.

You have the following options:

**Delete** Delete the message.

Or:

**Answer** Reply to the message  
(page 23).

The message list is deleted as soon as you go offline.

## Writing/sending messages

**Precondition:** You have pressed **Chat** in the buddy list or **Answer** when reading a buddy message.

- ▶ Enter the message.
- ▶ Select **Menu** → **Send** and press **OK**.

The message is sent to the buddy.

- ▶ Press **OK** to return to the buddy or message list.

#### Note:

You cannot reply to info messages (special provider information).

When writing a message, you can activate/deactivate predictive text, select the input language for predictive text or delete the text via **Menu**.

## Calling a buddy

**Precondition:**

- ◆ The messenger server supports calls via vCard and the buddy's vCard contains a phone number.
- ◆ You have selected a buddy from the buddy list or the message list



**Briefly** press/press and **hold** the talk key (page 16).

The first number found in the vCard is selected.

## Disconnecting, going offline



→ **Messaging** → **Messenger**  
→ **User Status** → **Change Status**



- ▶ Select **Offline** status and press **OK**.
- ▶ Confirm the security prompt with **Yes**.

The messenger message list is deleted.  
The buddy list is no longer available.



## Handset/base station settings

The handset and base station are preconfigured, but you can change these settings to suit your individual requirements. You will find the relevant functions in the sub-menus

 → Settings and  → Alarm Clock (page 14).


The base station settings are carried out using a registered Gigaset S45 handset.

## Changing the handset display keys

You can assign different functions to your handset's display keys. The change is handset-specific.

- ▶ In idle status, press and **hold** the right or left display key (e.g. **FixedLine**).

The list of possible key assignments is opened.

 Select a function and press **OK**.

The handset returns to idle status. The labeling for the display key has changed (for example **Messgr.** if Messenger is selected).

## Adjusting the loudspeaker volume

You can set the loudspeaker volume for handsfree talking to five different levels and the earpiece volume to three different levels. You can only make these adjustments during a call. The handsfree talking volume can only be adjusted when this function is set.


You are conducting an external call.

 Open menu.

 Select volume.

**Save**

Press display key if necessary to save the setting permanently.

If  is assigned with another function, such as toggling:

**Options**

Open menu.

**Volume**

Select and press **OK**.

Configure setting (see above).

## Setting ringer tones

Set the volume and melody depending on the type of signaling required.


 →  Settings → Audio Settings  
→ Ringer Settings

Ext. Calls / Internal Calls / All

Select and press **OK**.

- ▶ Change multiple line input:


 Set volume (1–6).

 Scroll to the next line.

 Select melody.

**Save**

Press the display key to confirm the prompt.

In idle status, you can also open the menu Ringer Settings by pressing  **briefly**.


## Activating/deactivating the ringer tone

You can deactivate the ringer tone on your handset before you accept a call or when the handset is in idle status; the ringer tone can be deactivated permanently or just for the current call. The ringer tone cannot be re-activated while an external call is in progress.

### Deactivating the ringer tone permanently



Press the star key and hold until you can no longer hear the ringer tone.

The  icon appears in the display.

### Re-activating the ringer tone





Press and **hold** the star key.

## Deactivating the ringer tone for the current call

**Silence** Press the display key.

## Activating/deactivating advisory tones

 →  Settings → Audio Settings  
→ Advisory Tones

- Change multiple line input:

Key Tones: / Confirm.:

Select On or Off.

Battery:

Select On, Off or In Call. The battery warning tone is only activated/deactivated and only sounds during a call.

- Save changes with **Save**.

## Setting the alarm clock

**Precondition:** The date and time have already been set (page 7).

## Activating/deactivating the alarm clock and setting the wake-up time

 →  Alarm Clock

- Change multiple line input:

Activation:

Select On or Off.

Time:

Enter the wake-up time in 4-digit format.


Melody:

Select melody.

Volume:

Set the volume (1-6).

- Save changes with **Save**.

You will see the  icon.

## When the alarm clock rings ...

### Alarm repeat after 5 minutes

**Snooze** Press the display key or any key.



After the second repetition the wake-up call is deactivated for 24 hours.


### Deactivating the alarm clock for 24 hours


**OFF** Press the display key. The wake-up call is deactivated.


## Changing the system PIN on the base station


You can change the base station's 4-digit default system PIN ("0000") to a 4-digit system PIN known only to yourself.

 →  Settings → Base → System PIN

 Enter the current system PIN and press **OK**.

 Enter the new system PIN.

 Scroll to the Re-enter PIN: line.

 Now reenter the new system PIN and press **OK**.

For security reasons, "\*\*\*\*" is displayed instead of the system PIN.


 Press and **hold** (idle status).

## Setting default connection

You can configure settings according to whether you want to make calls via VoIP or fixed network by default (press talk key **briefly**).

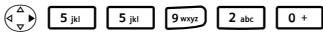
 →  Settings → Telephony  
→ Default Line

VoIP / Fixed Line

Select and press **OK** ( = on).

## Checking the base station MAC address

In idle status:



The base station MAC address is displayed.



Press and **hold** (idle status).

## Web configurator

The Web configurator is the Web interface for your handset. It allows you to configure the settings for your phone's base station via your PC's Web browser.

### Preconditions:

- ◆ A standard Web browser is installed on the PC, such as Internet Explorer version 6.0 or higher, or Firefox version 1.0.4 or higher.
- ◆ The phone and PC are connected to each other via a router.

## Connecting the PC to the Web configurator

- ▶ Launch the Web browser on your PC.
- ▶ Enter the phone's IP address into the address field of the Web browser, for example <http://192.168.1.2>.
- ▶ Press the Enter key.

A connection is established to the phone's Web configurator.

### Note:

You can check the phone's current IP address on the handset:

→ Settings → Base → Local Network

## Deregistering

In the menu bar at the top right of every Web page in the Web configurator, you will see the **Log Off** command. Click on **Log Off** to deregister from the Web configurator.

## Web configurator functions

### Menu tree

Home	(Function overview)	
Settings		
	IP configuration	
	Telephony	
		Connections
		Number assignment
		DTMF
		Dialing Plans
		Directory
	Messaging	
		Messenger
		E-Mail
	Miscellaneous	
	Status	(Information about the phone)
	Device	

### Settings

With the Web configurator on your phone you have the following options:

#### ◆ IP configuration

Configure your phone access to the local network (IP address, gateway to the Internet).

Especially if you assign your phone a static IP address, you must enter the gateway and DNS server via the Web configurator. That is usually your router.

## ◆ Telephony → Connections

Configure your phone for VoIP.

Download your VoIP provider's general access data from the Internet onto your phone or enter the data yourself.

Enter the personal access data for your VoIP account (VoIP phone number) with this VoIP provider.

Activate/deactivate this VoIP phone number as necessary.

The phone registers itself with the VoIP server using the activated VoIP phone number and can be reached at this number.

## ◆ Telephony → DTMF

DTMF signaling is required, for example to check and control some network mailboxes.

Specify how DTMF signals are to be transmitted for VoIP. In RTP packets (such as voice data) or in SIP info packets.

Ask your VoIP provider which type of DTMF signaling is supported.

## ◆ Telephony → Dialing Plans

You can activate and deactivate the following dialing plans:

- For VoIP calls, an area code is automatically added in front of all numbers that do not start with 0. Specify this area code.
- Stored emergency numbers are always dialed via the fixed network. The stored emergency numbers are displayed. You can enter a phone number of your own.

## ◆ Telephony → Directory

Store your outlook contacts in a tsv file on your PC and load this onto your handset. The contacts are copied to the handset directory.

Back up the directories for your handsets on a PC.

## ◆ Messaging

Enter the access data for your messenger server and your e-mail server.

You can specify a resource name your phone should use to log on to the messenger server as well as a priority for message delivery. If you are online and using more than one device, any message from a buddy will be sent to the device that has the highest priority.

## ◆ Miscellaneous

State whether you wish to receive information about new firmware versions available online.

For the following firmware update you can specify the server/PC that is to make the update, and if required load new firmware onto the phone.

View the VoIP status codes on the handset to diagnose problems with VoIP connections.

You will find the description of the Web configurator in the detailed user guide for your Gigaset S450 IP on the Internet at [www.siemens.com/gigaset](http://www.siemens.com/gigaset).

## Appendix

---

### Care

---

- ▶ Wipe down the base station and handset with a **damp** cloth (no solvents) or an antistatic cloth.

**Never** use a dry cloth. This can cause a static build up.

### Contact with liquid

---

If the handset has come into contact with liquid:

- ▶ **Switch the handset off and remove the batteries immediately.**
- ▶ Allow the liquid to drain from the handset.
- ▶ Pat all parts dry, then with the battery compartment open and the keypad facing down place the handset in a warm, dry place **for at least 72 hours (not in a microwave, oven etc.)**.
- ▶ **Do not switch on the handset again until it is completely dry.**

When it has fully dried out, you will normally be able to use it again.

### Questions and answers

---

If you have any questions about using your phone, visit us at [www.siemens.com/qigasetcustomer care](http://www.siemens.com/qigasetcustomer care) at any time. You will also find a list of common problems and possible solutions in the detailed user guide.

## Specifications

---

### Recommended batteries

---

(Valid at the time of going to press)

Nickel-metal-hydride (NiMH):

- ◆ Sanyo Twicell 650
- ◆ Sanyo Twicell 700
- ◆ Panasonic 700 mAh "for DECT"
- ◆ GP 700mAh
- ◆ Yuasa Technology AAA Phone 700
- ◆ VARTA Phone Power AAA 700mAh
- ◆ GP 850mAh
- ◆ Sanyo NiMH 800
- ◆ Yuasa Technology AAA 800

The handset is supplied with two recommended batteries.

### Handset operating times/charging times

---

The following information relates to batteries with a capacity of 650 mAh.

Standby time	approx. 170 hours (7 days)
Talktime	approx. 13 hours
Charging time	approx. 6 hours

The operating and charging times apply only when using the recommended batteries.

#### Note:

When the display backlight is switched on, the standby time of the handset is reduced to approx. 30 hours.

### Base station power consumption

---

Depending on current status, around 2.5 W.

## General specifications

Interfaces	Fixed network, Ethernet
No. of channels	60 duplex channels
Radio frequency-range	1880–1900 MHz
Duplex method	Time multiplex, 10 ms frame length
Channel grid	1728 kHz
Bit rate	1152 kbit/s
Modulation	GFSK
Language code	32 kbit/s
Transmission power	10 mW, average power per channel
Range	up to 328 yards outdoors, up to 55 yards indoors
Base station power supply	230 V ~/50 Hz
Environmental conditions in operation	+41°F to +113°F; 20% to 75% humidity
Dialing mode	DTMF (touch tone dialing)/ DP (dial pulsing)
Flashing time	250 ms
Codecs	G711, G726, G729AB with VAD/CNG
Quality of Service	TOS, DiffServ
Protocols	DECT, GAP, SIP, RTP, DHCP, NAT Traversal (STUN), HTTP

## FCC / ACTA Information

**Warning:** Changes or modifications to this unit not expressly approved by Siemens Cordless Products could void the FCC authority to operate the equipment. This includes the addition of any external antenna device.

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the bottom of the base station is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company. A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.

The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. For products approved after July 23, 2001, the REN for this product is part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g., 03 is a REN of 0.3). For earlier products, the REN is separately shown on the label.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance, that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary. The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service. If you experience trouble with this telephone system, disconnect it from the network until the problem has been

corrected or until you are sure that the equipment is not malfunctioning.

If trouble is experienced with this equipment, for repair or warranty information, please contact Siemens Customer Care, Tel. 1-866 247 8758. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved. This equipment is of a type that is not intended to be repaired by the Customer (user).

This telephone system may not be used on coin service provided by the telephone company. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information. Privacy of communications may not be ensured when using this phone.

If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this equipment does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

This telephone system equipment has been tested and found to comply with the limits for Class B digital device, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Some cordless telephones operate at frequencies that may cause interference to nearby TVs and VCRs; to minimize or prevent such interference, the system base should not be placed near or on top of a TV or VCR; and, if interference is experienced, moving the base farther away from the TV or VCR will often reduce or eliminate the interference.

However, there is no guarantee that interference will not occur in a particular installation. If this telephone system does cause harmful interference to radio or television reception, which can be determined by turning the system off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the base station and receiver.

3. Connect the base station into an outlet on a circuit different from that to which the receiver is connected.

4. Consult the dealer or an experienced radio TV technician for help.

### **Notice for Direct Inward Dialing ("DID")**

ALLOWING THIS EQUIPMENT TO BE OPERATED IN SUCH A MANNER AS TO NOT PROVIDE FOR PROPER ANSWER SUPERVISION AS A VIOLATION OF PART 68 OF THE FCC'S RULES.

### **Notice to Hearing Aid Wearers:**

This phone system is compatible with inductively coupled hearing aids.

### **Power Outage:**

In the event of a power outage, your cordless telephone will not operate. The cordless telephone requires electricity for operation. You should have a telephone that does not require electricity available for use during power outages.

### **Notice:**

The installation of the base unit should allow at least 8 inches between the base and persons to be in compliance with FCC RF exposure guidelines.

For body worn operation, the portable part (handset) has been tested and meets FCC RF exposure guidelines. Use with an accessory that contains metal parts may not ensure compliance with FCC RF exposure guidelines.

### **Notice to telephone company service:**

If you need service from your telephone company, please provide them with the information

- Facility interface Code (FIC)
- Service Order Code (SOC)
- Universal Service Order Code (USOC) Jack as indicated on the label on the bottom side of the base station.

## Industry Canada Certification

Operation is subject to the following two conditions (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

**NOTICE:** The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network, protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together.

This precaution may be particularly important in rural areas

**NOTE:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

This product meets the applicable Industry Canada technical specifications.

The Ringer Equivalence Number is an indication of the maximum number of devices allowed to be connected to a telephone interface. The termination of an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all devices does not exceed five.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## Safety precautions

Before using your telephone equipment, basic safety instructions should always be followed to reduce the risk of fire, electric shock and injury to persons.

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall telephone jack and power outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use damp cloth for cleaning.
4. Do not use this product near water, for example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement or near a swimming pool.
5. Place this product securely on a stable surface. Serious damage and/or injury may result if the unit falls.
6. Slots or openings in the cabinet and the back and bottom are provided for ventilation, to protect it from overheating. These openings must not be blocked or covered. This product should never be placed near or over a radiator or heat register, or in a place where proper ventilation is not provided.
7. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.
8. Do not place objects on the power cord. Install the unit where no one can step or trip on the cord.
9. Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
10. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in the risk of fire or electric shock. Never spill liquid of any kind on this product.
11. To reduce the risk of electric shock or burns, do not disassemble this product. Take it to a qualified service center when service is required. Opening or removing covers may expose you to dangerous voltages, dangerous electrical current or other risks. Incorrect reassembly can cause electric shock when the appliance is subsequently used.
12. Unplug the product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - a.) When the power cord is damaged or frayed.
  - b.) If liquid has been spilled into the product.



## Appendix

- c.) If the product has been exposed to rain or water.
  - d.) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions because improper adjustment of other controls may result in damage and may require extensive work by a qualified technician to restore the product to normal operation.
  - e.) If the product has been dropped or physically has been damaged.
  - f.) If the product exhibits a distinct change in performance.
13. Avoid using a telephone (other than a cordless type) during a thunderstorm. There may be a remote risk of electrical shock from lightning. Therefore we suggest a surge arrestor.
14. Do not use the telephone to report a gas leak in the vicinity of the leak.
15. Emergency/911 numbers may not be dialed if the keypad is locked.

6. Charge the batteries provided with, or identified for use with, this product only in accordance with the instructions and limitations specified in the user's manual. Do not attempt to charge the batteries with any means other than that specified in the users manual.
7. Periodically clean the charge contacts on both the charger and handset.

### BATTERY SAFETY PRECAUTIONS

To reduce the risk of fire, injury or electric shock, and to properly dispose of batteries, please read and understand the following instructions.

CONTAINS ALKALINE NICKEL METAL HYDRIDE BATTERY. BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY. DO NOT DISPOSE OF IN MUNICIPAL WASTE.

- 1. Only use the batteries specified for use with this product.
- 2. DO NOT USE ALKALINE NICKEL CADMIUM OR ALKALINE LITHIUM BATTERIES, or mix batteries of different sizes or from different manufacturers in this product. DO NOT USE NONRECHARGEABLE BATTERIES.
- 3. Do not dispose of the batteries in a fire; the cells may explode. Do not expose batteries to water. Check with local codes for special disposal instructions.
- 4. Do not open or mutilate the batteries. Released electrolyte is corrosive and may cause damage to the eyes or skin. The electrolyte may be toxic if swallowed.
- 5. Exercise care in handling the batteries in order not to short the batteries with conducting materials such as rings, bracelets, and keys. The batteries or conducting material may overheat and cause burns or fire.

**Customer Care Warranty for Cordless Products**  
**To obtain Siemens Customer Care Warranty service,**  
**product operation information, or for problem resolution, call:**  
**Toll Free: 1-866 247 8758**  
**9:00 a.m. – 5:00 p.m. Monday-Saturday**

[www.siemens.com/gigasetcustomercare](http://www.siemens.com/gigasetcustomercare)

## **END-USER LIMITED WARRANTY**

This limited, non-transferable warranty is provided to the original buyer/end-consumer ("you") for systems, handsets and accessories (collectively, "Product") manufactured, sold and/or distributed by Siemens Home and Office Communication Devices LLC ("Siemens"). Siemens warrants to you that at the date of purchase, the product is free of defects in workmanship and materials and the software included in the Product will perform in substantial compliance to its program specifications.

### **1. WARRANTY PERIOD**

The Product warranty period is one (1) year from the original date of purchase by you. Proof of purchase (e.g., sales slip or invoice) must be provided with any Product returned during the Warranty Period. Batteries supplied with the Products are warranted to be free from defects at the time of purchase only.

### **2. EXCLUSIVE REMEDY**

Siemens' entire liability and your exclusive remedy if the Product is defective in materials or workmanship during the Warranty Period and is returned shall be that the Product will be repaired or replaced as set forth in Section 4 below. Reconditioned replacement components, parts or materials may be used in the replacement or repair. Data in the memory of the Product may be lost during repair.

### **3. THIS LIMITED WARRANTY DOES NOT COVER AND IS VOID WITH RESPECT TO THE FOLLOWING:**

- Cosmetic damage, physical damage to the surface of the Product, including, without limitation, breakage, cracks, dents, scratches or adhesive marks on the LCD screen or outside casing of the Product.

- Products which have been repaired, maintained or modified (including the antenna) by anyone other than Siemens or a Siemens-approved repair facility, or that have been improperly installed.
- Cost of installation, removal or reinstallation.
- "Damage due to any telephone, electronic, hardware or software program, network, Internet or computer malfunctions, failures, or difficulties of any kind, including without limitation, server failure or incomplete, incorrect, garbled or delayed computer transmissions.
- Equipment and components not manufactured, supplied or authorized by Siemens.
- Modification of the Product's components, or operation of the Product in an unsuitable environment or in a manner for which it is not intended, including but not limited to failures or defects caused by misuse, abuse, accidents, physical damage, abnormal operation, improper handling or storage, neglect, alterations, unauthorized installation, removal or repairs, failure to follow instructions, problems caused by the carrier's network coverage, exposure to fire, water or excessive moisture or dampness, floods, or extreme changes in climate or temperature, acts of God, riots, acts of terrorism, spills of food or liquids, viruses or other software flaws introduced into the Product, or other acts which are not the fault of Siemens and which the Product is not specified to tolerate, including damage caused by mishandling or blown fuses.
- Products which have had warranty stickers, electronic serial number and/or serial number label removed, altered, rendered illegible or fraudulently applied to other equipment.
- Signal reception problems (unless caused by defect in material or workmanship in the Product).
- Products operated outside published maximum ratings.

- Performance of the Products when used in combination with other products or equipment not manufactured, supplied or authorized by Siemens.
- Consumables (such as batteries and fuses).
- Payments for labor or service to representatives or service centers not authorized to perform product maintenance by Siemens.
- Loss of data.
- Testing and examination discloses that the alleged defect or malfunction in the Product does not exist.

This warranty does not cover customer education, instruction, installation or removal, set up adjustments, problems related to service(s) provided by a carrier or other service provider, and/or signal reception problems. Siemens shall not be responsible for software, firmware, information, or memory data contained in, stored on, or integrated with any Products returned for repair, whether under warranty or not.

This warranty is valid only in the United States.

**USE WITH ACCESSORIES NOT SUPPLIED BY SIEMENS OR NOT OTHERWISE EXPRESSLY AUTHORIZED BY SIEMENS MAY VOID WARRANTY.**

#### 4. WARRANTY CLAIM PROCEDURE

All warranty claims must be made by notifying Siemens prior to the expiration of the Warranty Period. Siemens' obligation to provide warranty support shall not extend past the end of the Warranty Period, except that any product repaired or replaced during the Warranty Period shall continue to be warranted for the balance of such Warranty Period or thirty (30) days, whichever is greater.

Throughout the Warranty Period, Siemens will be available to provide you with technical support service Monday through Saturday from 9:00 a.m. to 5:00 p.m. Central Time, excluding National holidays. Support service will be provided for you by accessing Siemens' toll free customer service number:

**1-866-247-8758**

#### 5. LIMITATION OF WARRANTY

Siemens makes no warranty or representation that the software in the Products will meet your requirements or will work in combination with any hardware or applications software products provided by third parties, that the operation of the software will be uninterrupted or error free, or that all defects in the software products will be corrected.

#### 6. LIMITATION ON REMEDIES; NO CONSEQUENTIAL OR OTHER DAMAGES

Your exclusive remedy for any breach of this Limited Warranty is as set forth above. Except for any refund elected by Siemens, **YOU ARE NOT ENTITLED TO ANY DAMAGES, INCLUDING BUT NOT LIMITED TO CONSEQUENTIAL DAMAGES**, if the Product does not meet the Limited Warranty, and, to the maximum extent allowed by applicable law, even if any remedy fails of its essential purpose. The terms below ("Exclusion of Incidental, Consequential and Certain Other Damages") are also incorporated into this Limited Warranty. Some states/jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Limited Warranty gives you specific legal rights. You may have others which vary from state/jurisdiction to state/jurisdiction.

#### 7. DISCLAIMER OF WARRANTIES

SIEMENS AND ITS SUPPLIERS PROVIDE THE PRODUCT AND SUPPORT SERVICES (IF ANY) AS IS AND WITH ALL FAULTS. THE LIMITED WARRANTY IS IN LIEU OF ANY OTHER EXPRESS WARRANTIES (IF ANY) CREATED BY ANY DOCUMENTATION OR PACKAGING EXCEPT FOR THE LIMITED WARRANTY, AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW IS IN LIEU OF ANY IMPLIED OR STATUTORY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, OF ACCURACY OR COMPLETENESS OR RESPONSES, OF RESULTS, OF WORKMANLIKE EFFORT, OF LACK OF VIRUSES AND OF LACK OF NEGLIGENCE, ALL WITH REGARD TO THE PRODUCT, AND THE PROVISION OF OR FAILURE TO PROVIDE SUPPORT SERVICES. ALSO, THERE IS NO WARRANTY OR CONDITION OF TITLE, QUIET ENJOYMENT, QUIET POSSESSION, OR CORRESPONDENCE TO DESCRIPTION OR NON-INFRINGEMENT WITH REGARD TO THE PRODUCT. Some states or provinces do not allow limitations on how long an implied warranty lasts

or the exclusion or limitation of incidental or consequential damages, so the above exclusions or limitations may not apply to you (applies only in the U.S. and Canada). If an implied warranty or condition is created by your state/province and federal or state/provincial law prohibits disclaimer of it, you also have an implied warranty or condition, BUT ONLY AS TO DEFECTS DISCOVERED DURING THE PERIOD OF THIS LIMITED WARRANTY (ONE YEAR). AS TO ANY DEFECTS DISCOVERED AFTER THE ONE YEAR PERIOD, THERE IS NO WARRANTY OR CONDITION OF ANY KIND. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state or from province to province (applies only in the U.S. and Canada). In no event shall Siemens' liability exceed the cost of repairing or replacing defective Products as provided herein, and any such liabilities will terminate upon expiration of the warranty period.

Any supplements or updates to the Product or the software in the Product, including without limitation, any (if any) software fixes or upgrades or bug fixes provided to you after the expiration of the one year Limited Warranty period are not covered by any warranty or condition, express, implied or statutory.

## **8. EXCLUSION OF INCIDENTAL, CONSEQUENTIAL AND CERTAIN OTHER DAMAGES**

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL SIEMENS, SELLER OR THEIR SUPPLIERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFITS OR CONFIDENTIAL OR OTHER INFORMATION, FOR BUSINESS INTERRUPTION, FOR PERSONAL INJURY, FOR LOSS OF PRIVACY, FOR FAILURE TO MEET ANY DUTY INCLUDING OF GOOD FAITH OR OF REASONABLE CARE, FOR NEGLIGENCE, AND FOR ANY OTHER PECUNIARY OR OTHER LOSS WHATSOEVER) ARISING OUT OF OR IN ANY WAY RELATED TO THE USE OF OR INABILITY TO USE THE PRODUCT, THE PROVISION OF OR FAILURE TO PROVIDE SUPPORT SERVICES, OR OTHERWISE UNDER OR IN CONNECTION WITH ANY PROVISION OF THIS LIMITED WARRANTY, EVEN IN THE EVENT OF THE FAULT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, BREACH OF CONTRACT OR BREACH OF WARRANTY OF SIEMENS OR SELLER OR ANY SUPPLIER, AND EVEN IF SIEMENS OR SELLER OR ANY SUPPLIER HAS

BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. REPAIR OR REPLACEMENT, AS PROVIDED UNDER THE WARRANTY, IS YOUR SOLE AND EXCLUSIVE REMEDY FOR BREACH OF THE LIMITED WARRANTY.

## **9. LIMITATION OF LIABILITY AND REMEDIES**

NOTWITHSTANDING ANY DAMAGES THAT YOU MIGHT INCUR FOR ANY REASON WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ALL DAMAGES REFERENCED ABOVE AND ALL DIRECT OR GENERAL DAMAGES), THE ENTIRE LIABILITY OF SIEMENS, SELLER AND ANY OF THEIR SUPPLIERS UNDER ANY PROVISION OF THIS LIMITED WARRANTY AND YOUR EXCLUSIVE REMEDY FOR ALL OF THE FOREGOING (EXCEPT FOR ANY REMEDY OF REPAIR OR REPLACEMENT ELECTED BY SIEMENS OR SELLER OR SUPPLIER WITH RESPECT TO ANY BREACH OF THE LIMITED WARRANTY) SHALL BE LIMITED TO THE GREATER OF THE AMOUNT ACTUALLY PAID BY YOU FOR THE PRODUCT OR FIVE DOLLARS (\$5.00 USD). THE FOREGOING LIMITATIONS, EXCLUSIONS AND DISCLAIMERS SHALL APPLY TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EVEN IF ANY REMEDY FAILS ITS ESSENTIAL PURPOSE.

## **10. GOVERNING LAW**

This limited warranty will be governed by the laws of Texas, and excluding the United Nations Convention on Contracts for the International Sale of Goods.

If you want to learn more about Siemens Gigaset, or for technical assistance with your Gigaset, visit our web site at <http://www.siemens.com> or, please call 1-866 247 8758, or for TDD access 1-888 777-0209.

Issued by Siemens Cordless Products  
Siemens and Gigaset are registered trademarks of Siemens Home and Office Communication Devices GmbH & Co. KG.  
Siemens Cordless Products is a division of Siemens Home and Office Communication Devices GmbH & Co. KG.  
Product attributes subject to change.  
Siemens reserves the right, to make changes without notice in equipment design and/or components.  
Part Number: A31008-M1713-R321-2-6043  
© Copyright 2006 Siemens Home and Office Communication Devices GmbH & Co. KG. All rights reserved.

## Gigaset S450 IP – free software

---

Your Gigaset S450 IP's firmware includes free software that is licensed under the GNU Lesser General Public License. This free software was developed by a third party and is protected by copyright. You will find the license text in its original English version on the pages that follow.

The software is provided free of charge. You are authorized to use this free software in accordance with the above-mentioned license conditions. In the event of contradictions between these license conditions and the license conditions that apply for the software according to Siemens Home and Office Communication Devices GmbH & Co. KG, the above-mentioned license conditions shall take precedence for the free software.

The GNU Lesser General Public License (LGPL) is supplied with this product. You can also download the license conditions from the Internet:

- ◆ The **LGPL** is available on the Internet at:  
<http://www.gnu.org/copyleft/lesser.html>
- ◆ The **source text, including copyright notices for free software**, is currently available on the Internet at:  
<http://www.siemens.com/developer/s450ip>

For more information and Internet links to the source text of the free software, see the Online Support pages on the Internet at:

[www.siemens.com/gigasetcustomercare](http://www.siemens.com/gigasetcustomercare)

If it is not already supplied with the product, you can request the source text, including copyright notices, from Siemens. There is a charge to cover the cost of copying and postage. Please submit this request by e-mail or fax to the following address or fax number within 3 years of purchasing this product. Please state the exact device type plus the version number of the installed device software.

Small Parts Dispatch Com Bocholt

E-mail: [kleinteileversand.com@siemens.com](mailto:kleinteileversand.com@siemens.com)

Fax: 02871 / 91 30 29

Use of the free software contained in this product extending beyond the program sequence intended by Siemens is at the user's own risk – in other words there shall be no claims for liability for defects against Siemens Home and Office Communication Devices GmbH & Co. KG. The GNU Lesser General Public License contains notes regarding the author's liability for defects or that of other proprietors of the free software.

You shall have no right to assert a claim against Siemens Home and Office Communication Devices GmbH & Co. KG based on liability for defects, if a defect in the product is or could be due to changes you have made to the programs or their configuration. Furthermore, you shall have no right to assert a claim against Siemens Home and Office Communication Devices GmbH & Co. KG based on liability for defects if the free software violates the copyright of third parties.

Siemens will not provide technical support for the software, including the free software included within it, if it has been changed.

## GNU LESSER GENERAL PUBLIC LICENSE

---

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

### Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages -- typically libraries -- of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library. We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the

free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

### **GNU LESSER GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION**

**0.** This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".) "Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

**1.** You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

**2.** You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and sepa-

rate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

**3.** You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

**4.** You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

**5.** A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License.

Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not.

Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessories, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6.

Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

**6.** As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things: a) Accompany the work with the complete corresponding machine-readable source code for



the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate

distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein.

You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at

all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library. If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

**12.** If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

**13.** The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

**14.** If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these,

write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

#### **NO WARRANTY**

**15.** BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.

EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

**16.** IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

#### **END OF TERMS AND CONDITIONS**

### How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
<one line to give the library's name and a brief
idea of what it does.>
Copyright (C) <year> <name of author>
This library is free software; you can redistribute
it and/or modify it under the terms of the
GNU Lesser General Public License as published
by the Free Software Foundation; either
version 2.1 of the License, or (at your option)
any later version.
This library is distributed in the hope that it will
be useful, but WITHOUT ANY WARRANTY;
without even the implied warranty of MERCHANTABILITY
or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser
General Public License for more details.
```

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright
interest in the library `Frob' (a library for
tweaking knobs) written by James Random
Hacker. <signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice
```

